

REMARKS

Claims 1-17 are pending in this application, of which claims 4-11 have been withdrawn from consideration pursuant to the provisions of 37 C.F.R. §1.142(b). Claims 1-3 and 12-17 are now active for examination, of which claims 1 and 12 are independent.

Rejections of Claims Under 35 U.S.C. § 103

Claims 1-3 and 12-17 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Blumenau et al. (U.S. Patent No. 6,260,120, “Blumenau”) in view of McClannahan (U.S. Patent No. 6,438,670). This rejection is respectfully traversed.

Applicants submit that Blumenau and McClannahan, either individually or in combination, do not disclose or suggest a host device including all the limitations recited in independent claim 1, which reads:

1. A host device operative to input data to a storage device for storing data and output data from the storage device, the host device comprising a controller which divides a series of cryptographic processing for encrypting data to be secured and inputting or outputting the same into a plurality of procedures, and issues to the storage device a command for making the storage device execute a procedure to be executed on the storage-device side out of the procedures, wherein the controller obtains information for estimating time necessary to execute the command from the storage device prior to the issuance of the command, sets a wait time for the command based on the obtained information, issues the command to the storage device, and waits the time set for the command before it issues a command for the next procedure to the storage device.

In the statement of said rejection, the Examiner, referring to column 40, lines 20 and 34 of Blumenau, asserted that the reference teaches “dividing a series of cryptographic processing... into a plurality of procedures.” However, the Examiner’s cited portion simply teaches that a host controller receives a random number and a request for verification from a port adapter; the port

adapter encrypts the random number with its copy of the host controller's key; and the host controller encrypts the random number with its copy of the encryption key. It is apparent that this portion does not teach any division of a procedure into a plurality of procedures. Accordingly, Blumenau does not provide any support for the Examiner's assertion that the reference teaches "dividing a series of cryptographic processing... into a plurality of procedures," as recited in independent claim 1.

The Examiner also asserted that Blumenau teaches issuing to the storage device a command for making the storage device execute a procedure..., "as recited in independent claim 1. Blumenau in column 28, lines 35-50 states that flowchart 320 shows a routine executed by a microprocessor of a port adapter when the port adapter receives a volume access from a host controller port. In addition, Blumenau in column 35, lines 5-25 discusses the port adapters of the storage subsystem programmed to recognize "mount" and "unmount" commands from the host controller. Applicants note that the Examiner's cited portions are silent on execution of a particular procedure obtained as a result of division of the series of cryptographic processing.

Although the Examiner admitted, "Blumenau does not explicitly teach the controller obtains information for estimating time necessary to execute the command from the storage device prior to the issuance of the command, sets a wait time for the command based on the obtained information, issues the command to the storage device, and waits the time set for the command before it issues a command for the next procedure to the storage device" (the paragraph bridging pages 3 and 4 of the Office Action). However, the Examiner asserted that McClannahan teaches the missing features of Blumenau. Applicants respectfully disagree with the Examiner's understanding of McClannahan.

McClannahan simply teaches having a predetermined time parameter that defines a minimum delay between first and second memory control operations by using a programmable delay counter (see column 3, lines 22-33; column 5, lines 12-25; and column 6, lines 5-25, cited by the Examiner). Accordingly, it is apparent that McClannahan does not teach that a controller of host device obtains information for estimating time necessary to execute the command from the storage device prior to the issuance of the command, sets a wait time for the command based on the obtained information, issues the command to the storage device, and waits the time set for the command before it issues a command for the next procedure to the storage device. McClannahan indicates only a delay between two operations, but does not teach, among other things, the claimed information, obtained from a storage device, for estimating time necessary to execute the command.

It is noted that the claimed subject matter provides a unique advantage: a host controller can set a wait time most suitable for a storage device connected to the host device to execute a command even though time necessary to execute a command differs from device to device, by obtaining information for estimating time necessary to execute the command from the storage device. Blumenau and McClannahan are silent on such an advantage.

Based on the foregoing, Applicants submit that Blumenau and McClannahan, either individually or in combination, do not disclose or suggest a host device including all the limitations recited in independent claim 1. The above discussion is applicable to independent claim 12. Dependent claims 2, 3, and 13-17 are also patentably distinguishable over Blumenau and McClannahan at the least because these claims include all the limitations recited in independent claims 1 and 12, respectively. Applicants, therefore, respectfully solicit withdrawal of the rejection of claims and favorable consideration thereof.

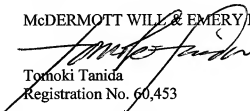
Conclusion

Applicants submit that all of the claims are in condition for allowance. Accordingly, this case should now be ready to pass to issue; and Applicants respectfully request a prompt favorable reconsideration of this matter.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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